line 7 of the present application, it is explained that argon has an effect of enhancing oxidation which is not the result of damage to the silicon substrate. See Semiconductor International, Vol. 22, No. 2, Feb. 1999. A potential explanation for the effect of argon as a species is set forth thereafter.

Similarly, oxygen implants similarly improve oxidation in a way which is not dependent on crystallographic damage effects. See Specification, page 8, lines 20 through 23. Oxidation is generally limited by the diffusion of oxygen into silicon and the diffusion of oxygen through any underlying oxidation layers. Id. By implanting the oxygen under the surface of the silicon, it is believed that oxidation may be enhanced by the presence of oxygen in the silicon structure, separate and apart from any damage created by the implant. See Specification, page 8, line 25 through page 9, line 3.

Thus, the idea of enhancing the oxidation, separate and apart from any prediffusion prior to the oxidation step, is nowhere suggested in the Hong reference. Therefore all of the claims patentably distinguish over the Hong reference for at least this reason.

In rejecting claims 5, 6, and 36 through 38 under § 103, it is conceded that Hong fails to disclose some or all of the features of these claims. However, the Examiner takes official notice "that argon or oxygen is art equivalent elements that can be used to form oxygen enhanced region." Since it is not clear to the applicant's attorney exactly what the Examiner is taking official notice of, the applicant asks the Examiner to cite a reference pursuant to the rules.

However, the present application does cite in the specification a reference that teaches the oxidation enhancing effect of argon. However, there would be no teaching of the

advantage of using argon, for example, in an application such as this one.

Specifically, through the use of argon, the inventor of the present application appreciated that oxidation could be enhanced beyond that occurring through crystallographic damage effects. Clearly, this did not occur to Hong. It would be undesirable to increase the thermal budget in many cases to prediffuse the impurities prior to the time of the oxidation step. Hong also does not use any prediffusion step. Therefore, it would not be obvious to one skilled in the art that certain oxidation enhancing species which enhance oxidation beyond crystallographic damage effects, could be used in this advantageous way while avoiding the need to prediffuse before the subsequent oxidation step.

In view of these remarks, the application is now in condition for allowance and the Examiner's prompt action in accordance therewith is respectfully requested.

An appendix is attached which sets forth the specific changes to the claims. The Examiner is respectfully requested to compare the claims in the Appendix and the claims in this reply to ensure that no inadvertent inconsistencies arise.

Respectfully submitted,

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APPENDIX

In the Claims

Please amend claim 1 as follows:

1. (Amended) A method of forming a trench isolation comprising:

forming a region containing oxidation enhancing impurities in a semiconductor structure by implanting impurities which enhance the oxidation of said structure beyond that which would be expected from crystallographic damage effects; and

making a trench through said region, leaving a portion of said region around said trench.

Please amend claim 5 as follows:

5. (Amended) The method of claim ~~4~~ 1 further including implanting argon.

Please amend claim 6 as follows:

6. (Amended) The method of claim ~~4~~ 1 further including implanting oxygen.

Please amend claim 33 as follows:

33. (Amended) A method of forming a trench isolation comprising:

defining an opening in a masking layer over a semiconductor structure;

causing impurities to enter a portion of said structure through said opening to enhance the oxidation of said structure beyond that which would be expected from crystallographic damage effects; and

using said mask to form a trench through the portion of said structure containing said impurities.